



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,709	04/10/2001	David L. Anglin	08935-240001 / M-4931A	1782
26161	7590	07/28/2006	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			MERCADO, JULIAN A	
			ART UNIT	PAPER NUMBER
			1745	
DATE MAILED: 07/28/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/829,709

Applicant(s)

ANGLIN, DAVID L.

Examiner

Julian Mercado

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,9-29,31,33-36,39-41,43-55,57 and 58 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,9-29,31,33-36,39-41,43-55,57 and 58 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____.

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed May 5, 2006.

Claims 1, 9-29, 31, 33-36, 39-41, 43-55, 57 and 58 are pending, of which claims 57 and 58 are newly submitted.

Claim Objections

The objection to claim 16 has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9, 10, 19, 31, 33 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend (EP 0 962 997 A1) in view of Adams (U.S. Pat. 4,177,157).

This rejection is maintained for the reasons of record. New claim 57 is taught or at least suggested by the prior art for the reasons set forth in the prior Office action, as this claim appears to revert back to a narrower range of the carbon fiber weight as previously claimed.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams, and further in view of Andersen (U.S. Pat. 4,948,484).

Art Unit: 1745

This rejection is maintained for the reasons of record.

Claims 13-18, 20-22, 35, 36, 39-41, 43-48, 50 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Andersen, and further in view of Yagi (U.S. Pat. 4,923,637).

This rejection is maintained for the reasons of record. As for claim 57, new claim 58 is taught or at least suggested by the prior art for the reasons set forth in the prior Office action, as this claim appears to revert back to a narrower range of the carbon fiber weight as previously claimed.

Claims 23 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Yagi, and further in view of Lafdi and Wright. (Carbon Fibers from Handbook of Composites, 1998)

This rejection is maintained for the reasons set forth above and for the reasons of record.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams, and further in view of Singer (U.S. Pat. 4,005,183)

This rejection is maintained for the reasons of record.

Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Yagi, and further in view of Singer (U.S. Pat. 4,005,183)

This rejection is maintained for the reasons set forth above and for the reasons of record.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams, and further in view of Lafdi, Wright and Singer.

This rejection is maintained for the reasons of record.

Art Unit: 1745

Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams, and further in view of Glasgow et al. (U.S. Pat. 6,506,355)

This rejection is maintained for the reasons of record.

Claims 50 and 51 rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Yagi, and further in view of Glasgow et al.

This rejection is maintained for the reasons set forth above and for the reasons of record.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams, and further in view of Mototani et al. (U.S. Pat. 5, 482,798)

Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Yagi, and further in view of Mototani et al.

This rejection is maintained for the reasons set forth above and for the reasons of record.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams, and further in view of Chalilpoyil et al. (U.S. Pat. 4,777,100)

This rejection is maintained for the reasons of record.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Yagi, and further in view of Chalilpoyil et al.

This rejection is maintained for the reasons set forth above and for the reasons of record.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Chalilpoyil et al., and further in view of Callahan et al. (U.S. Pat. 6,287,730 B1)

This rejection is maintained for the reasons of record.

Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friend in view of Adams and Yagi, and further in view of Callahan et al. (U.S. Pat. 6,287,730 B1)

Art Unit: 1745

This rejection is maintained for the reasons set forth above and for the reasons of record.

Response to Arguments

Applicant's arguments filed with the present amendment have been fully considered, however they are not found persuasive.

At the outset, it is noted that the present amendment to the claims, such as in independent claim 1, now recites manganese dioxide for the cathode and zinc for the anode, with said features being part of Friend's disclosure for the detailed reasons already of record. It is further noted that the claims have been amended to recite "[[about]] 6% and ~~about~~ 7 10% of carbon fibers by weight..." To this extent, applicant submits the rationale taken in the prior Office action is nonsense, in regards to raising the amount of carbon fibers in Friend based on the teachings of Adams. Applicant submits that "Friend plainly achieves good conductivity with this amount [about 5%] of carbon fibers and plainly wants to use as small a quantity of carbon fibers as possible in order to maximize the quantity of manganese dioxide (the cathode active material) in the cathode." In reply, this premise begs the question: if the amount of active material is desired to be maximized, why use the carbon fibers at all? The answer is clear; the skilled artisan would find obvious to employ the carbon fibers to improve on Friend's "good conductivity" (to paraphrase applicant's characterization) so as to achieve *greater* conductivity. (as taught by Adams) It is the examiner's position that given a finite volume capacity of a battery casing, a trade-off exists between, e.g., enhanced conductivity (via the amount of carbon fibers) and battery capacity (via the amount of active material). As set forth in the prior Office action, applicant's disclosure has been fully and carefully reviewed but is found absolutely silent on any

Art Unit: 1745

criticality or unexpected results even for the presently claimed “6% and 10% of carbon fibers by weight.” Applicant’s present response does not even acknowledge the invitation presented in the prior Office action to point out any unexpected results that may be derived from the claimed range. Instead, the argument presented in applicant’s reply relies on Friend allegedly wanting to use the smallest amount of carbon as possible. As applicant is well aware, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this regard, it appears to the examiner that the present amendment, in reciting manganese dioxide for the cathode and zinc for the anode, is submitted to place emphasis on applicant’s argument against the combination of Friend and Adams, i.e. that “Adams has no applicability to the manganese dioxide cathode described by Friend.” (pg. 2) This argument is not persuasive. Adams in col. 1 line 10 state very clearly that the disclosed invention “is useful for *all* of the popular alkaline storage battery electrodes (e.g. zinc, cadmium, nickel, silver etc.)...” (emphasis added) Even applicant’s own remarks on page 1 state that “Friend discloses carbon fibers that can be used in various types of batters [sic], including alkaline batteries having a cathode including manganese dioxide and an anode including zinc...” Thus, any allegation that the combination of Friend and Adams is untenable, on the grounds that the references have no mutual applicability, is not found persuasive.

As to Friend nor Adams not describing heat-treated carbon fibers, this feature is believed addressed in prior Office actions. See, for example, the May 2003 Office action on page 3.

Arguments directed to Yagi et al. have been fully considered. It is noted that while Yagi et al. teaches heat-treated carbon fibers, this teaching is *supplementary* to Friend's teaching of the same. Applicant submits that the examiner has not explained why the skilled artisan would decide to take Yagi's et al. carbon fibers and use them in Friend. In reply, see the December 2, 2003 Office action on page 4, where it is maintained that the skilled artisan would find obvious to *further modify* the carbon fibers in Friend by employing the carbon fiber *diameters* disclosed by Yagi et al. Applicant also submits that the carbon fibers used by Friend are not part of a resin or rubber composite, insofar as Yagi et al.'s fibers are designed for use in a resin or rubber composite. In reply, even if the carbon fibers of Yagi et al. were employed *en toto* in Friend, refer to Example 4 of Yagi et al, which is an embodiment using a known nitric acid treatment step of the carbon fibers in lieu of the resin. See col. 2 lines 1-6 for a description of the prior art's approach of the same and col. 8 line 46 et seq. Indeed, Yagi et al. teaches "[1] a high conductivity carbon fiber *or* [2] the resin or paint including the high conductivity fiber..." (col. 10 line 59 et seq., emphasis and numbering added) Regarding applicant's assertion that the skilled artisan would be guided to reduce the carbon fibers in Friend based on the enhanced conductivity of the carbon fibers in Yagi et al., this argument is not persuasive as it is premised on an increased level of conductivity, even higher and above and beyond what is already present in Friend, being undesirable. This is clearly not the case. Why would the skilled artisan use Yagi et al.'s carbon fibers with enhanced conductivity in Friend in a manner that increases the starting amount of carbon fibers disclosed by Friend? The answer deserves a second mention—the skilled artisan would find obvious to employ the carbon fibers of Yagi et al. to improve on Friend's "good conductivity" so as to achieve an even *greater* conductivity.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

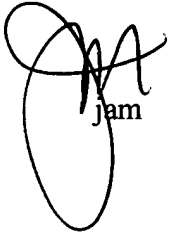
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 1745

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER